FIGURE 1

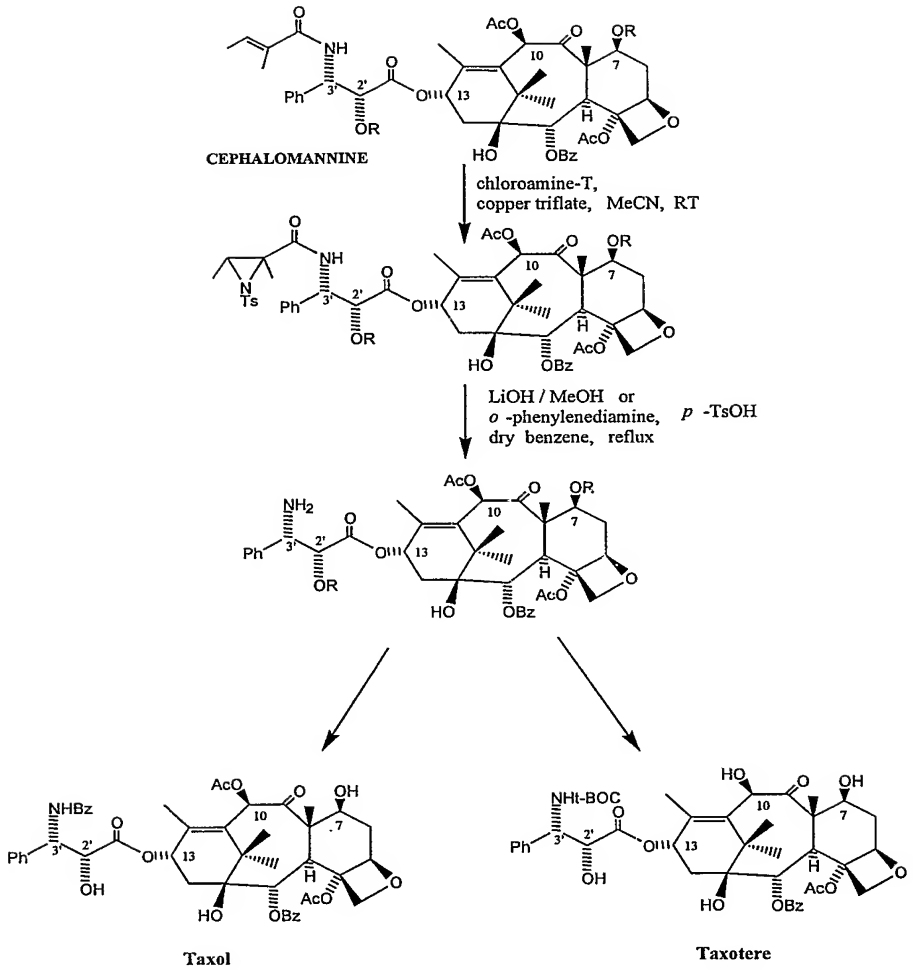

CEPHALOMANNINE
chloroamine-T,
copper triflate, MeCN, RT
LiOH / MeOH or
o -phenylenediamine, p -TsOH
dry benzene, reflux
Taxol
Taxotere

FIGURE 2

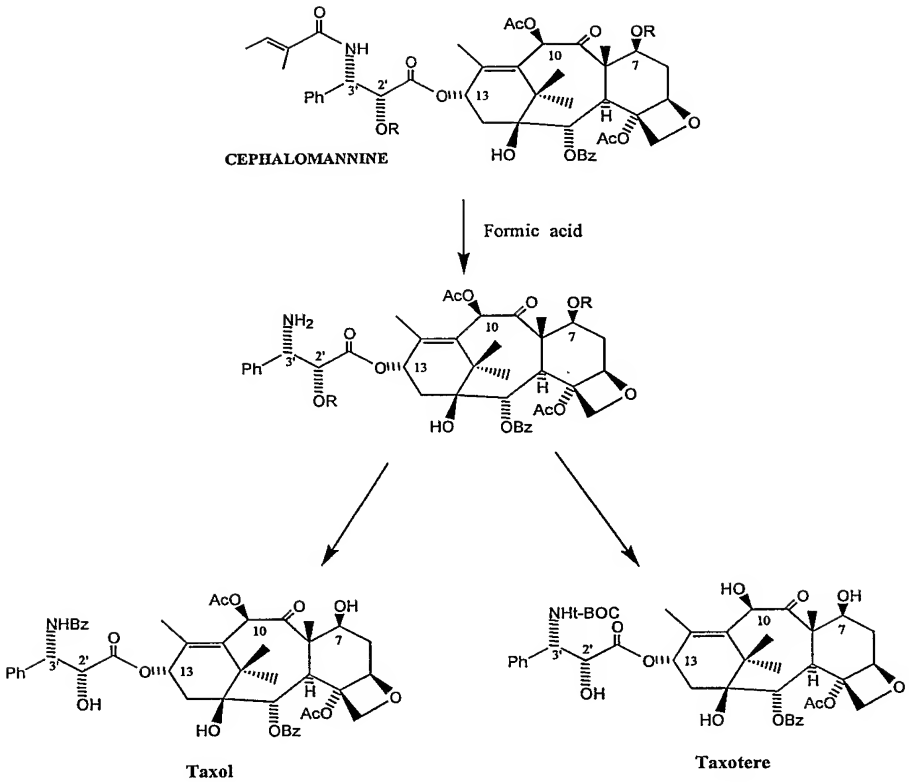


FIGURE 3

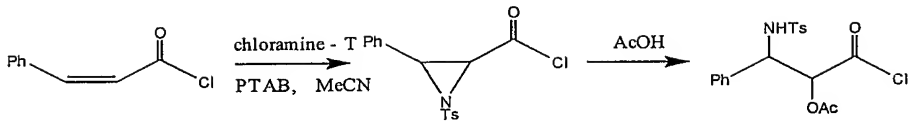


FIGURE 4

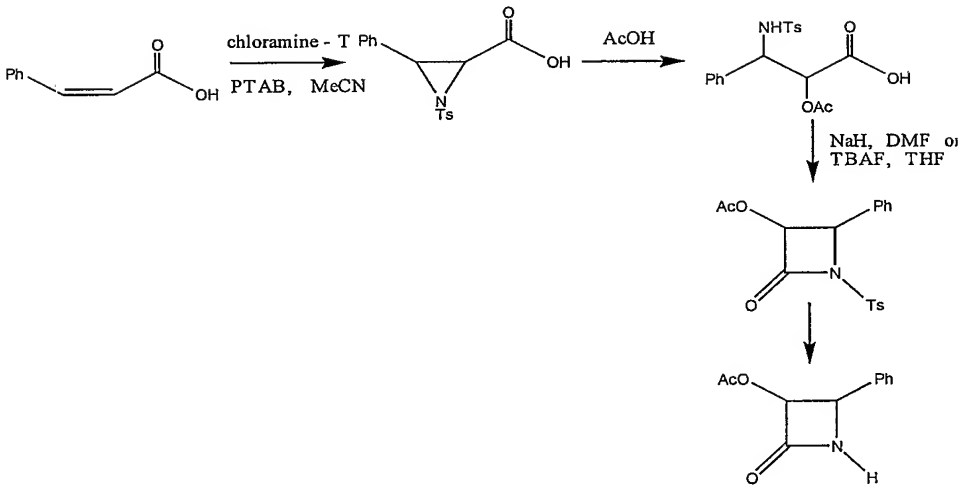


FIGURE 5

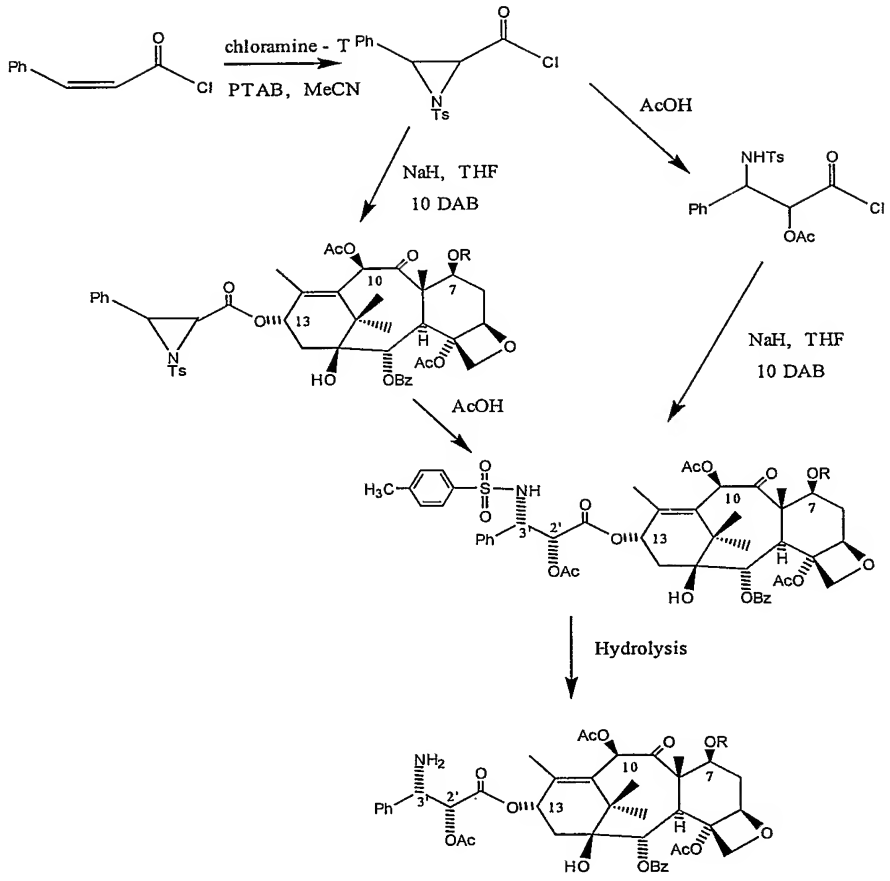

chloramine - T
PTAB, MeCN
Ph
Cl
Ts
AcOH
NaH, THF
10 DAB
NHTs
OAc
AcO
OR
HO
OBz
H3C
NH
Hydrolysis
NH2
Primary amine

FIGURE 6

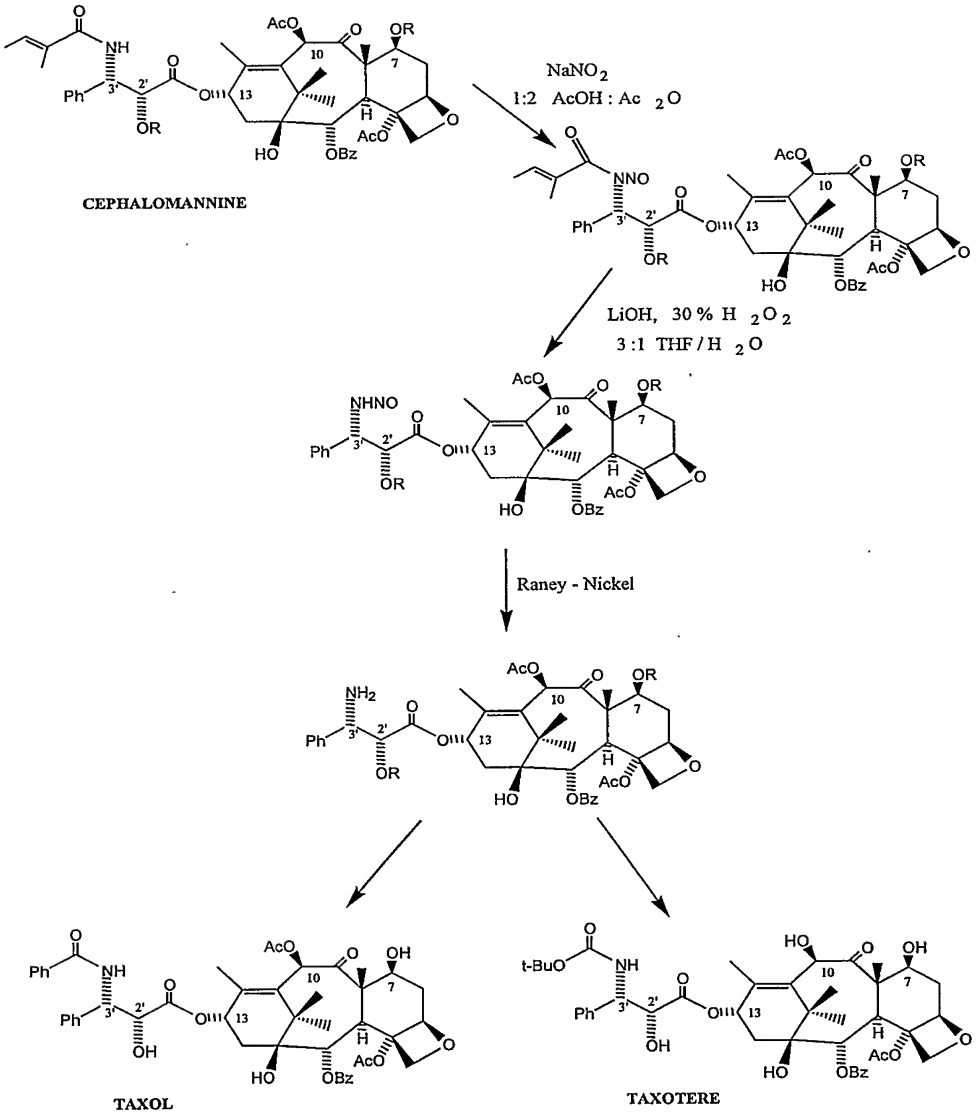
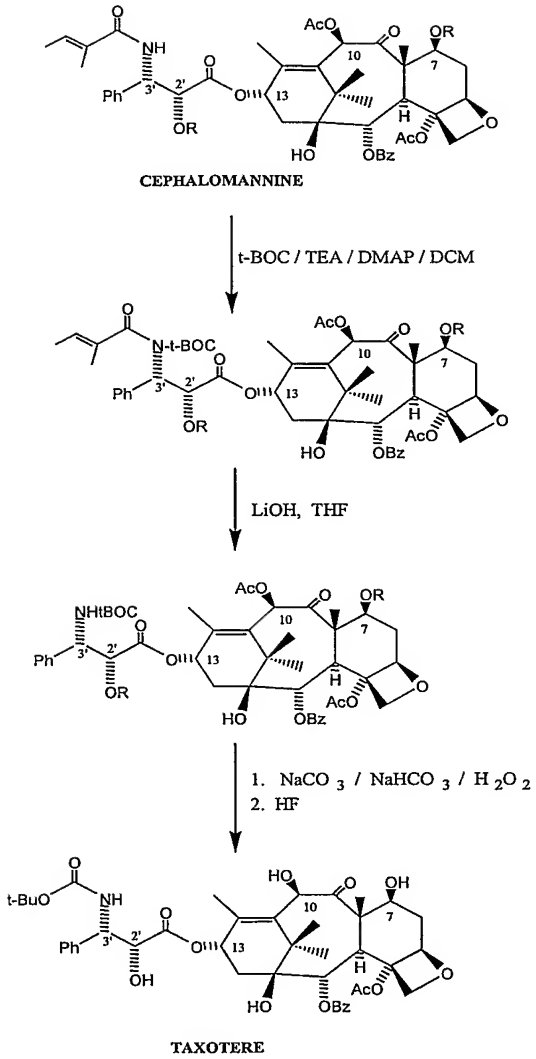

CEPHALOMANNINE
NaNO2
1:2 AcOH : Ac 2O
LiOH, 30 % H 2O2
3 :1 THF / H 2O
Raney - Nickel
TAXOL
TAXOTERE

FIGURE 7


CEPHALOMANNINE
t-BOC / TEA / DMAP / DCM
LiOH, THF
1. NaCO 3 / NaHCO 3 / H 2O 2
2. HF
TAXOTERE

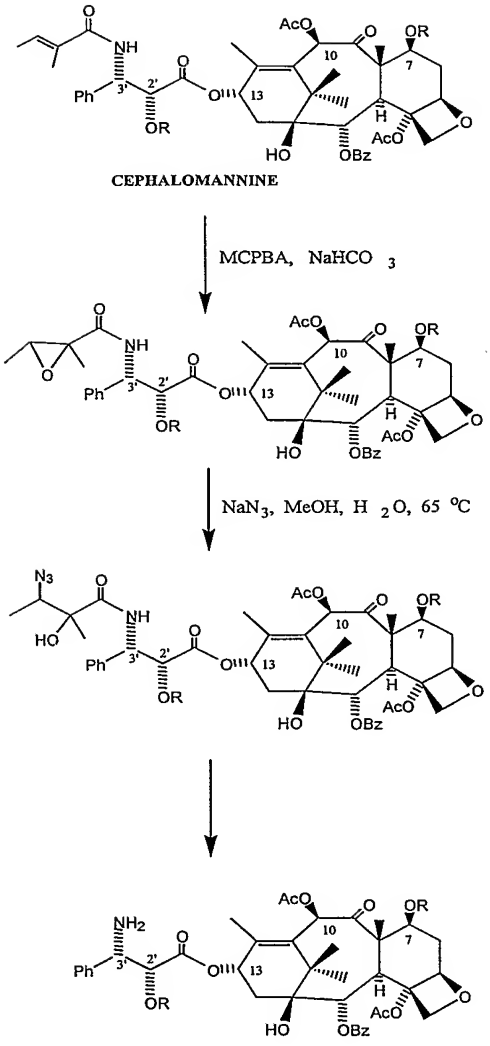



FIGURE 8